| Ref # | Hits | Search Query | DBs | Default Operator | Plurals | Time Stamp |
|---|---|---|---|---|---|---|
| L1 | 38567 | "175"/$.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 12:05 |
| L2 | 25352 | "175"/$.ccls. and (bor$4 drill$4) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 12:06 |
| L3 | 9373 | "175"/$.ccls. and @ad<"19991001" | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 12:06 |
| L4 | 18 | "175"/$.ccls. and @ad<"19991001" and "N-1" | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 12:12 |
| L5 | 28 | "175"/$.ccls. and @ad<"19991001" and square adj (figure hole polygon$4) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 13:10 |
| L6 | 9 | "4059163" | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 13:06 |
| L7 | 13 | "4074778" | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 13:06 |
| L8 | 6 | "175"/$.ccls. and @ad<"19991001" and triangul$4 adj (figure hole polygon$4) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 13:11 |
| L9 | 7 | "175"/$.ccls. and @ad<"19991001" and triang$4 adj (figure hole polygon$4) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:33 |
| L10 | 14 | ("1241176" | "2586084" | "2976027" | "3036821" | "3199496" | "3771501" | "3922120" | "RE26383").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:31 |
| L11 | 1 | "175"/$.ccls. and @ad<"19991001" and (triang$4 squar$4) adj (figure hole polygon$4) and ("5" five pentigon$4) adj (bor$4 drill$4 cutte$4 head bit) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:37 |
| L12 | 34 | "175"/$.ccls. and @ad<"19991001" and (triang$4 squar$4) adj (figure hole polygon$4) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:38 |
| L13 | 1 | "175"/$.ccls. and @ad<"19991001" and (triang$4 squar$4) adj (figure hole polygon$4) and pentagon$4 | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:45 |

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| L14 | 2 | lobed same cutting same polygonal same square | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 14:45 |
| S1 | 157 | (drill drilling boring) and (polygonal circle) and (revolve around) and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/01/10 14:14 |
| S2 | 102 | (drill drilling boring) and (polygonal circle) and (revolve around) and "angular velocity" and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 14:20 |
| S3 | 0 | (drill drilling boring) and (polygonal circle) and (revolve around) and "703"/$.ccls | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/18 13:03 |
| S4 | 831 | (drill drilling boring) and (polygonal circle) and (revolve around) and (simulate simulating simulation) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/18 12:57 |
| S5 | 6452 | ((703/$)).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/03/18 13:08 |
| S6 | 78 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and ((("703"/$)).CCLS.) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/18 13:09 |
| S7 | 19 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and ((("703"/$)).CCLS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:24 |
| S8 | 6071 | (drill drilling boring) and geometry and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:38 |
| S9 | 35 | (drill drilling boring) adj geometry and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/28 12:16 |

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|---|---|---|---|---|---|---|
| S10 | 83 | (drill drilling boring) and (polygonal circle) and (revolve around) and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/28 12:12 |
| S11 | 29 | "6527068".pn. "6021377".pn. "6095262".pn. "6290006".pn. "6213225".pn. "5864058".pn. "5787022".pn. "6401839".pn. "4408671".pn. "5950747".pn. "6412577".pn. "6516293".pn. "4815342".pn. "6349595".pn. "6241034".pn. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/28 12:19 |
| S12 | 70 | (drill drilling boring) and Geometry and (polygonal circle) and (revolve around) and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 09:17 |
| S13 | 2 | (drill drilling boring) adj Geometry and (polygonal circle) and (revolve around) and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 09:18 |
| S14 | 61 | (drill drilling boring) adj Geometry | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 09:19 |
| S15 | 33 | ((703/10).CCLS.) and (drill drilling boring) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 09:31 |
| S16 | 110 | (703/10).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/19 12:05 |
| S17 | 28 | ((703/10).CCLS.) and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:00 |
| S18 | 2151 | (drill drilling boring) and geometry and (figure graphic) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:39 |

| S19 | 626 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:40 |
|---|---|---|---|---|---|---|
| S20 | 268 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and radius | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:40 |
| S21 | 235 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and radius and diameter | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:41 |
| S22 | 535 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:41 |
| S23 | 533 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:42 |
| S24 | 131 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:50 |
| S25 | 9 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) and angular adj velocity | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:43 |
| S26 | 79 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) not mirror | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:51 |
| S27 | 79 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) not mirror not polution | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:51 |

| S28 | 75 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) not mirror not pollution | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 08:49 |
|-----|-----|------|------|------|------|------|
| S29 | 74 | (drill drilling boring) and geometry and (figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) not (mirror pollution combustion) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:56 |
| S30 | 74 | (drill drilling boring) and geometry and (polygon figure graphic) and model and @pd < "19981001" and (radius diameter) and (first second center) adj (hole point position) not (mirror pollution combustion) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:57 |
| S31 | 14 | (n-polygon n-polygonal) and curve | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:58 |
| S32 | 64 | (n-polygon n-polygonal) and (curve figure polygon graphic drawing hole boring drill drilling) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/03/29 10:59 |
| S33 | 2 | spirograph and drill | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/06 12:09 |
| S34 | 62 | spirograph | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/06 12:12 |
| S35 | 8 | spirograph and surround$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/06 12:13 |
| S36 | 1 | "angular velocity" and (spirograph "spiro graph" "spiro-graph") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/07 12:58 |

| S37 | 789 | (drill$ boring) and spiral and restriction | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 08:41 |
|-----|-----|---------------------------------------------|----------------------------------------------|----|----|-------------------|
| S38 | 276 | (drill$ boring) and spiral and restriction and radius | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 08:42 |
| S39 | 19 | (drill$ boring) and spiral and restriction and radius and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 08:42 |
| S40 | 5 | (drill$ boring) and spiral and restriction and radius and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:13 |
| S41 | 244 | "N" and polygonal and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:21 |
| S42 | 13 | "N" and polygonal and (spiral spiro spirograph) and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:24 |
| S43 | 13 | "N" and (N-polygonal polygonal) and (spiral spiro spirograph) and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:30 |
| S44 | 6871 | "N-2" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:31 |
| S45 | 0 | "N(N-2)r" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:31 |
| S46 | 30 | "N(N-2)" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:31 |

| S47 | 110 | 703/10.ccls. | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/13 09:48 |
|---|---|---|---|---|---|---|
| S48 | 43 | 703/10.ccls. and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:00 |
| S49 | 5 | "5399056" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 14:34 |
| S50 | 6 | "SHIBAZAKI, MITSUHIRO" and "velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 14:37 |
| S51 | 26 | "4084648" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 14:37 |
| S52 | 4 | 703/10.ccls. and @pd < "19981001" and spir$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:02 |
| S53 | 10 | 703/10.ccls. and @pd < "19981001" and model | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:03 |
| S54 | 5 | (drill$ boring) and spiral and restriction and radius and "angular velocity" and @pd < "19981001" and (velocity angular angle rotate rotation rotating radius diameter polygon polygonal n-fold order drill drilling boring bored graph graphic hole dig characteristic dimension) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:19 |
| S55 | 8443 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and model | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:22 |

| S56 | 45 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and (simulate simulating simulation) and ((("703"/$)).CCLS.) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:22 |
|-----|-----|-----|-----|-----|-----|-----|
| S57 | 277 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and "angular velocity" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:25 |
| S58 | 201 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and "angular velocity" and (bit head gimlet borer drill awl auger) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:28 |
| S59 | 69 | (drill drilling boring) and (polygonal circle hole figure polygon graphic) and (revolve around) and "angular velocity" and (bit head gimlet borer drill awl auger) and ("n" "n-" "n ") and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/14 15:29 |
| S60 | 64 | (drill drilling boring) and (polygonal circle) and (revolve around) and (("700").CLAS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:01 |
| S61 | 10 | (drill drilling boring) and (triangular QUADRILATERAL PENTAGONAL HEXAGONAL octagonal) and (revolve around) and (("700").CLAS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:02 |
| S62 | 226 | (drill drilling boring) and (revolve around) and (("700").CLAS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:01 |
| S63 | 113 | (drill drilling bearing boring) and (triangular QUADRILATERAL PENTAGONAL HEXAGONAL octagonal) and (("700").CLAS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:19 |
| S64 | 1 | (drill drilling bearing boring) and triangular and QUADRILATERAL and PENTAGONAL and HEXAGONAL and octagonal and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:27 |

| S65 | 0 | (700/159.ccls700/184.ccls).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/19 12:31 |
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| S66 | 202 | (700/159).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 13:28 |
| S67 | 0 | (700/159and"N").CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 13:28 |
| S68 | 65 | ((700/159).CCLS.) and "N " | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 13:28 |
| S69 | 28 | ((700/159).CCLS.) and "N " and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:05 |
| S70 | 160 | (700/173).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 14:05 |
| S71 | 87 | ((700/173).CCLS.) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 08:46 |
| S72 | 0 | (700/(17318318718818919019119 2194)).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 14:22 |
| S73 | 908 | ((700/183) or (700/187) or (700/188) or (700/189) or (700/190) or (700/191) or (700/192) or (700/194)).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 14:23 |

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| S74 | 1041 | ((700/173) or (700/183) or (700/187) or (700/188) or (700/189) or (700/190) or (700/191) or (700/192) or (700/194)).CCLS. | US-PGPUB; USPAT; USOCR; EPO; JPO; DERWENT; IBM_TDB | OR | OFF | 2004/04/15 14:23 |
| S75 | 41 | (((700/173) or (700/183) or (700/187) or (700/188) or (700/189) or (700/190) or (700/191) or (700/192) or (700/194)).CCLS.) and (vertex$ cusp$ ) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:25 |
| S76 | 142104 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:34 |
| S77 | 6672 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:34 |
| S78 | 297 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:34 |
| S79 | 206 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ and "angular velocity" and radius | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:35 |
| S80 | 13 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ and "angular velocity" and radius and "N+1" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:35 |
| S81 | 20 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ and "angular velocity" and radius and ("N+1" "N-1" "N+2" "N-2") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 14:36 |
| S82 | 11 | (drill drilling bearing boring) and (polygonal figure circle) and (revolve around) and orbit$ and "angular velocity" and radius and ("N+1" "N-1" "N+2" "N-2") and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 11:40 |

| S83 | 68 | "roller cone" and "bit bearing" and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/15 15:04 |
|---|---|---|---|---|---|---|
| S84 | 1335 | ("(N-1)" "(N+1)" "(1-N)") adj4 (r R radius) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 08:49 |
| S85 | 292 | ("(N-1)" "(N+1)" "(1-N)") adj4 (r R radius) and model | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 08:49 |
| S86 | 55 | ("(N-1)" "(N+1)" "(1-N)") adj4 (r R radius) and model and ("angular velocity" velocity) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 08:55 |
| S87 | 132 | (circle sphere spherical global circular) same (around revolve turn turning circumscribe) same (radius diameter momentum dynamic spin) and "angular velocity" and orbit | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 11:42 |
| S88 | 30 | (milling router scriber) and (bit drilling drill boring bear bearing) and (cutting cut drilling drill form) and (Figure graphic polygon polygonal) not (network networking internet connection communication) and (vertex side cusp) and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 11:58 |
| S89 | 16 | (milling router scriber) and (bit drilling drill boring bear bearing) and (cutting cut drilling drill form) and (Figure graphic polygon polygonal) not (network networking internet connection communication) and (vertex side cusp) and "angular velocity" not (memory storage) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/16 11:59 |
| S90 | 1 | "3696695".PN. | USPAT | OR | OFF | 2004/04/16 12:41 |
| S91 | 1 | "4083272".PN. | USPAT | OR | OFF | 2004/04/16 12:42 |
| S92 | 1 | "4114486".PN. | USPAT | OR | OFF | 2004/04/16 12:43 |
| S93 | 1 | "4264249".PN. | USPAT | OR | OFF | 2004/04/16 13:35 |
| S94 | 1 | "4083272".PN. | USPAT | OR | OFF | 2004/04/16 13:35 |
| S95 | 1 | "3835588".PN. | USPAT | OR | OFF | 2004/04/16 13:37 |
| S96 | 1 | "3881378".PN. | USPAT | OR | OFF | 2004/04/16 13:38 |

| S97 | 1 | "3913274".PN. | USPAT | OR | OFF | 2004/04/16 13:38 |
|---|---|---|---|---|---|---|
| S98 | 1 | "3977279".PN. | USPAT | OR | OFF | 2004/04/16 13:38 |
| S99 | 1 | "3977279".PN. | USPAT | OR | OFF | 2004/04/16 13:38 |
| S100 | 1 | "3977279".PN. | USPAT | OR | OFF | 2004/04/16 13:39 |
| S101 | 1 | "3977279".PN. | USPAT | OR | OFF | 2004/04/16 13:40 |
| S102 | 1 | "3040607".PN. | USPAT | OR | OFF | 2004/04/16 13:40 |
| S103 | 1 | "3881378".PN. | USPAT | OR | OFF | 2004/04/16 13:41 |
| S104 | 1 | "3913274".PN. | USPAT | OR | OFF | 2004/04/16 13:41 |
| S105 | 1 | "3079732".PN. | USPAT | OR | OFF | 2004/04/16 13:41 |
| S106 | 1 | "3301104".PN. | USPAT | OR | OFF | 2004/04/16 13:41 |
| S107 | 1 | "3881378".PN. | USPAT | OR | OFF | 2004/04/16 13:42 |
| S108 | 1 | "3900971".PN. | USPAT | OR | OFF | 2004/04/16 13:42 |
| S109 | 1 | "3913274".PN. | USPAT | OR | OFF | 2004/04/16 13:43 |
| S110 | 0 | (drill drilling boring) and (polygonal circle) and (revolve around) and "angular velocity" and ("6584407".PN. three) adj (bit bits head drilling bear) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 14:09 |
| S111 | 4 | "1649858" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 14:22 |
| S112 | 6 | "1909078" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 14:23 |
| S113 | 85 | "3397928" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/19 14:23 |
| S114 | 1 | "0930759".PN. | USPAT | OR | OFF | 2004/04/19 14:28 |
| S115 | 1 | "2571930".PN. | USPAT | OR | OFF | 2004/04/19 14:29 |

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|---|---|---|---|---|---|---|
| S11 6 | 1 | "3696876".PN. | USPAT | OR | OFF | 2004/04/19 14:29 |
| S11 7 | 1 | "3696876".PN. | USPAT | OR | OFF | 2004/04/19 14:29 |
| S11 8 | 1 | "4763736".PN. | USPAT | OR | OFF | 2004/04/19 14:53 |
| S11 9 | 10 | "4763736" | USPAT | OR | OFF | 2004/04/19 14:53 |
| S12 0 | 406 | "system level" and "component level" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:21 |
| S12 1 | 31 | "system level" and "component level" and "behavior model" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:10 |
| S12 2 | 0 | "system level" and "component level" and "behavior model" and @pd < "19991102" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:10 |
| S12 3 | 31 | "system level" and "component level" and "behavior model" and @ad < "20001102" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:12 |
| S12 4 | 30 | "system level" and "component level" and "behavior model" and @ad < "20001102" and ("machine learning" experience "AI") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:15 |
| S12 5 | 2452 | CAE | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:16 |
| S12 6 | 1 | CAE and "behavior model" and @ad < "20001102" and ("machine learning" experience "AI") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:26 |
| S12 7 | 153 | "system level" and "component level" and target | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:51 |

| S12 8 | 37 | "system level" and "component level" and target and @pd< "19991102" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:22 |
|---|---|---|---|---|---|---|
| S12 9 | 8 | CAE and "behavior model" and @ad < "20001102" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:27 |
| S13 0 | 956 | (system same level same (generat$3 design$3)) and (component element) and @pd < "19991102" and model and parameter$1 and synthesis and (performance behavior) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:33 |
| S13 1 | 63 | (system same level same (generat$3 design$3)) and (component element) and @pd < "19991102" and model and (variable$1 parameter$1) and synthesis and (performance behavior) and "design parameter" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:40 |
| S13 2 | 5813 | (system product) same (element component) same level same (target spec specification requirement) and @pd < "19991102" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 11:54 |
| S13 3 | 882 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and simulat$3 and (building determin$3) @pd < "19991102" and behavior and ("703"/$.ccls.) and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) and first and (second another) and (CAE "computer aided Engineering" CAD "computer aided design" computer-aided-design) and (vehical car) and "component level" and "system level" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:24 |

| S13 4 | 0 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and simulat$3 and (building determin$3) and @pd < "19991102" and behavior and ("703"/$.ccls.) and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) and first and (second another) and (CAE "computer aided Engineering" CAD "computer aided design" computer-aided-design) and (vehical car) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:25 |
| S13 5 | 0 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and simulat$3 and (building determin$3) and @pd < "19991102" and behavior and ("703"/$.ccls.) and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) and first and (second another) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:27 |
| S13 6 | 0 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and @pd < "19991102" and behavior and ("703"/$.ccls.) and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:28 |

| S13 7 | 4226 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:28 |
|---|---|---|---|---|---|---|
| S13 8 | 3 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and @pd < "19991102" and behavior and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:30 |
| S13 9 | 6 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and @ad < "20001102" and behavior and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing) and (cascaded hierachical hierachy) and (determin$ build$) and (range tolerance) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:33 |
| S14 0 | 94 | (system product) same (element component) same level same (target spec specification requirement performance predetermin$5) same (parameter model variable) and @ad < "20001102" and behavior and ("machine learning" experimental AI "artificial intelligent") and (synthesis combination assembling mixing)and (range tolerance) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/20 12:34 |
| S14 1 | 38 | drill same pattern same contour | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:28 |
| S14 2 | 96 | drill$ same pattern same contour | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:34 |

| S14 3 | 13 | (drill$ same pattern same contour) and angular | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:31 |
|---|---|---|---|---|---|---|
| S14 4 | 11717 | drill$ same pattern | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:31 |
| S14 5 | 0 | (drill$ same pattern) and point and countour and angular | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:32 |
| S14 6 | 211 | (drill$ same pattern) and point and contour and angular | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:33 |
| S14 7 | 705787 | point same connect$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:34 |
| S14 8 | 2213 | (point same connect$) and (drill$ same pattern) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:36 |
| S14 9 | 146 | ((point same connect$) and (drill$ same pattern)) and contour and (angular or rotation$) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:43 |
| S15 0 | 7 | (((point same connect$) and (drill$ same pattern)) and contour and (angular or rotation$)) and polygon$ | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:51 |
| S15 1 | 1670 | (drill$3 boring bearing) adj pattern | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:55 |
| S15 2 | 877 | (drill$3 boring bearing) adj pattern and (length radius) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:53 |

| S15 3 | 14 | (drill$3 boring bearing) adj pattern and (length radius) and angular adj (speed velocity) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:53 |
|---|---|---|---|---|---|---|
| S15 4 | 1165 | (drill$3 boring bearing) adj pattern and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:56 |
| S15 5 | 1778 | (drill$3 boring bearing) adj (pattern figure path) and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:03 |
| S15 6 | 20 | ((drill$3 boring bearing) adj (pattern figure path) and @ad < "19991001" ) and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 08:57 |
| S15 7 | 767 | (drill$3 boring bearing) adj (pattern figure path) and @ad < "19991001" and (velocity speed frequency) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:03 |
| S15 8 | 427 | (drill$3 boring bearing) adj (pattern figure path) and @ad < "19991001" and (velocity speed frequency) and (maximum max min minimum) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:04 |
| S15 9 | 296 | (drill$3 boring bearing) adj (pattern figure path contour) and @ad < "19991001" and (velocity speed frequency) and (maximum max min minimum) and (revolve surround rotat$4) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:16 |
| S16 0 | 23 | (drill$3 boring bearing) adj (pattern figure path contour) and @ad < "19991001" and (velocity speed frequency) and (maximum max min minimum) and (revolve surround rotat$4) and center adj point | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:06 |
| S16 1 | 344 | (drill$3 boring bearing) adj (pattern figure path contour) and @ad < "19991001" and (velocity speed frequency) and (maximum max min minimum) and (revolv$3 surround$3 rotat$4) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:17 |

| S162 | 191 | (drill$3 boring bearing) adj (pattern figure path contour) and @ad < "19991001" and (velocity speed frequency) and (maximum max min minimum) and (revolv$3 surround$3 rotat$4) and fixed | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:28 |
|---|---|---|---|---|---|---|
| S163 | 0 | ("N(N-2)" "N(N+2)") and "angular velocity" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:29 |
| S164 | 81 | "N(N-2)" "N(N+2)" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:29 |
| S165 | 6242833 | "N(N-2)" "N(N+2)"and (radius r diameter) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:30 |
| S166 | 59 | ("N(N-2)" "N(N+2)") and (radius r diameter) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:30 |
| S167 | 22 | ("N(N-2)" "N(N+2)") and (radius r diameter) and (revolv$3 rotat$ surround$3) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:31 |
| S168 | 70 | drill$ same pattern same contour and @ad < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:41 |
| S169 | 10 | "6496008" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 09:41 |
| S170 | 1 | "4029444".PN. | USPAT | OR | OFF | 2004/04/26 10:21 |
| S171 | 1 | "3895610".PN. | USPAT | OR | OFF | 2004/04/26 10:21 |
| S172 | 1 | "3492974".PN. | USPAT | OR | OFF | 2004/04/26 10:22 |
| S173 | 1 | "3464361".PN. | USPAT | OR | OFF | 2004/04/26 10:22 |

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| S17 4 | 138 | "SHIBAZAKI, MITSUHIRO" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 12:55 |
| S17 5 | 94 | hypotrochoid | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:58 |
| S17 6 | 72 | hypotrochoid and @ad < "19991001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:51 |
| S17 7 | 1 | "5067456".PN. | USPAT | OR | OFF | 2004/04/26 13:34 |
| S17 8 | 1 | "3253580".PN. | USPAT | OR | OFF | 2004/04/26 13:34 |
| S17 9 | 1 | "3226013".PN. | USPAT | OR | OFF | 2004/04/26 13:35 |
| S18 0 | 1 | "3253580".PN. | USPAT | OR | OFF | 2004/04/26 13:37 |
| S18 1 | 1 | "3226013".PN. | USPAT | OR | OFF | 2004/04/26 13:38 |
| S18 2 | 9 | "2947290" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:54 |
| S18 3 | 2 | "2988056" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:55 |
| S18 4 | 20 | "3226013" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:57 |
| S18 5 | 3181 | "rotary piston engine" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:58 |
| S18 6 | 8 | "rotary piston engine" and hypotrochoid | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/26 13:59 |

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|---|---|---|---|---|---|---|
| S18 7 | 42 | "5297057" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/27 12:03 |
| S18 8 | 26 | "5043929" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/27 12:03 |
| S18 9 | 314 | "rock bit" and pattern | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 07:54 |
| S19 0 | 7 | "rock bit" and pattern and orbit$3 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 07:56 |
| S19 1 | 42 | "rock bit" and pattern and ("eq" "equation") | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:51 |
| S19 2 | 16116 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:53 |
| S19 3 | 2046 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:53 |
| S19 4 | 1756 | ("rock bit" drilling bearing boring) and (pattern figure) and ("eq" "equation") and simulat$3 and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:53 |
| S19 5 | 0 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and applet and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:54 |
| S19 6 | 797 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and velocity and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:54 |

| S19 7 | 1458 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:55 |
|---|---|---|---|---|---|---|
| S19 8 | 541 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and radius and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:55 |
| S19 9 | 963 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and (radius diameter) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:01 |
| S20 0 | 8 | ("rock bit" drilling bearing boring) and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and (radius diameter) and @pd < "19981001" and "1-N" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 12:56 |
| S20 1 | 233 | ("rock bit" drilling) and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and (radius diameter) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:15 |
| S20 2 | 183 | ("rock bit" drilling) and (pattern figure) and ("eq" "equation") and simulat$3 and (velocity speed) and (radius diameter) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:02 |
| S20 3 | 5 | "rock bit" and (pattern figure hole) and ("eq" "equation") and simulat$3 and (velocity speed) and (radius diameter) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:29 |
| S20 4 | 1 | "eulerian transformation" and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:29 |
| S20 5 | 43 | eulerian and transformation and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:30 |
| S20 6 | 63 | eulerian and transform$5 and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:33 |

| S20 7 | 0 | eulerian adj2 transform$5 and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:33 |
|---|---|---|---|---|---|---|
| S20 8 | 27 | eulerian same transform$5 and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:33 |
| S20 9 | 42 | eulerian same (equation transform$5) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:40 |
| S21 0 | 1 | eulerian same (equation transform$5) and @pd < "19981001" and drill$4 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:35 |
| S21 1 | 4 | eulerian same (equation transform$5) and @pd < "19981001" and (rotary boring drill$3 bearing) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:36 |
| S21 2 | 86 | eulerian and (equation transform$5) and @pd < "19981001" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:41 |
| S21 3 | 14 | eulerian and (equation transform$5) and @pd < "19981001" and (rotary boring drill$3 bearing) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 13:45 |
| S21 4 | 72 | (eulerian and (equation transform$5) and @pd < "19981001") not (eulerian and (equation transform$5) and @pd < "19981001" and (rotary boring drill$3 bearing)) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 14:36 |
| S21 5 | 0 | "rock bit" adj2 design and equation | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/06/07 15:22 |
| S21 6 | 30 | "rock bit" adj2 design | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 14:42 |

| S217 | 314 | "rock bit" and pattern | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 14:42 |
|------|-----|------------------------|--------------------------------------------|-----|-----|-------------------|
| S218 | 42 | "rock bit" and pattern and equation | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/04/29 14:42 |
| S219 | 2 | "06304805" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/06/07 15:28 |
| S220 | 4 | "1618900" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/06/07 15:30 |
| S221 | 6 | "2586084" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2004/06/07 15:30 |
| S222 | 8 | ("RE26383" \| "1241176" \| "2586084" \| "2976027" \| "3036821" \| "3199496" \| "3771501" \| "3922120").PN. | USPAT | OR | ON | 2004/06/07 15:34 |
| S223 | 19583 | boring same (figure hole) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/01/10 14:15 |
| S224 | 4855 | drilling adj bit | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:07 |
| S225 | 10732 | (drilling boring) adj (bit head) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:08 |
| S226 | 0 | (drilling boring) adj (bit head) and square and triangle and pentagon | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:08 |

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| S22 7 | 0 | (drilling boring) adj (bit head) and square and triangle and pentagon$4 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:09 |
| S22 8 | 313 | (drilling boring) and square and triangle and pentagon$4 | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:09 |
| S22 9 | 0 | (drilling boring) and (square and triangle and pentagon$4) near2 (figure polygon$3 hole) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:09 |
| S23 0 | 2149 | (drilling boring) and (square triangle pentagon$4) near2 (figure polygon$3 hole) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:10 |
| S23 1 | 144 | (drilling boring) and (square and triangle pentagon$4) near2 (figure polygon$3 hole) | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:20 |
| S23 2 | 16 | "4074778" | US-PGPUB; USPAT; EPO; JPO; DERWENT; IBM_TDB | OR | ON | 2005/12/02 14:20 |
| S23 3 | 9 | ("4074778").URPN. | USPAT | OR | ON | 2005/12/02 14:26 |
| S23 4 | 14 | ("1241176" \| "2586084" \| "2976027" \| "3036821" \| "3199496" \| "3771501" \| "3922120" \| "RE26383").PN. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:30 |
| S23 5 | 0 | "299/$".ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:30 |
| S23 6 | 15723 | "299"/$.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:31 |
| S23 7 | 20 | "299"/$.ccls. and multiple adj (bit head borer) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:33 |
| S23 8 | 0 | 405/233.ccls. and multiple adj (bit head borer) | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:33 |

| S23 9 | 316 | 405/233.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/02 14:36 |
| S24 0 | 271 | 175/91.ccls. | US-PGPUB; USPAT; USOCR | OR | ON | 2005/12/06 12:05 |